

CLAIMS

1. A control device for an auger type ice making machine, comprising:

a driver circuit that drives a geared motor for rotating an auger;

a voltage detector that detects an input voltage applied to the geared motor;

a current detector that detects a motor current flowing in the geared motor; and

a control circuit in which a plurality of current threshold values that differ according to the input voltage are set in advance, the control circuit controlling the driver circuit so as to stop the geared motor when a value of the motor current detected by the current detector exceeds a current threshold value that corresponds to the value of the input voltage detected by the voltage detector.

2. A control device for an auger type ice making machine according to claim 1, wherein the control circuit ignores a value of the motor current detected by the current detector during start-up of the geared motor.

3. A control device for an auger type ice making machine according to claim 1, wherein the control circuit has a high current threshold value corresponding to start-up of the geared motor.

4. A control device for an auger type ice making machine, comprising:

a driver circuit that drives a geared motor for rotating an auger;

a voltage detector that detects an input voltage applied to

the geared motor;

a rotating speed detector that detects a rotating speed of the geared motor; and

a control circuit in which a plurality of rotating speed threshold values that differ according to the input voltage are set in advance, the control circuit controlling the driver circuit so as to stop the geared motor when a value of the rotating speed detected by the rotating speed detector is less than a rotating speed threshold value that corresponds to the value of the input voltage detected by the voltage detector.

5. A control device for an auger type ice making machine according to claim 4, wherein the control circuit ignores a value of the rotating speed detected by the current detector during start-up of the geared motor.

6. A control device for an auger type ice making machine according to claim 4, wherein the control circuit has a high rotating speed threshold value corresponding to start-up of the geared motor.

7. A control device for an auger type ice making machine, comprising:

a voltage detector that detects an input voltage applied to a geared motor for rotating an auger;

a current detector that detects a motor current flowing in the geared motor; and

a control circuit which determines a threshold value for the motor current according to a value of the input voltage detected by the voltage detector, and which, when a value of the motor current detected by the current detector exceeds the threshold value, controls operation of a refrigeration circuit of the ice making

machine such that a refrigeration capacity of the refrigeration circuit decreases.

8. A control device for an auger type ice making machine according to claim 7, further comprising:

a fan motor for cooling a condenser of the refrigeration circuit; and

a regulating circuit that drives the fan motor at variable speed,

the control circuit decreasing the refrigeration capacity of the refrigeration circuit by controlling the regulating circuit so as to decrease a rotating speed of the fan motor.

9. A control device for an auger type ice making machine according to claim 7, further comprising a regulating circuit that drives a compressor of the refrigeration circuit at variable speed,

the control circuit decreasing the refrigeration capacity of the refrigeration circuit by controlling the regulating circuit so as to decrease a rotating speed of the compressor.

10. A control device for an auger type ice making machine according to claim 7, further comprising:

a bypass pipe that communicates an outlet side of a compressor of the refrigeration circuit with an outlet side or an inlet side of an evaporation pipe; and

an electromagnetic valve attached to the bypass pipe,

the control circuit decreasing the refrigeration capacity of the refrigeration circuit by opening the electromagnetic valve to guide coolant to the bypass pipe.

11. A control device for an auger type ice making machine,

comprising:

- a voltage detector that detects an input voltage applied to a geared motor for rotating an auger;

- a rotating speed detector that detects a rotating speed of the geared motor; and

- a control circuit which determines a threshold value for the rotating speed of the geared motor according to a value of the input voltage detected by the voltage detector, and which, when a value of the rotating speed detected by the rotating speed detector is less than the threshold value, controls operation of a refrigeration circuit of the ice making machine such that a refrigeration capacity of the refrigeration circuit decreases.

12. A control device for an auger type ice making machine according to claim 11, further comprising:

- a fan motor for cooling a condenser of the refrigeration circuit; and

- a regulating circuit that drives the fan motor at variable speed,

- the control circuit decreasing the refrigeration capacity of the refrigeration circuit by controlling the regulating circuit so as to decrease a rotating speed of the fan motor.

13. A control device for an auger type ice making machine according to claim 11, further comprising a regulating circuit that drives a compressor of the refrigeration circuit at variable speed,

- the control circuit decreasing the refrigeration capacity of the refrigeration circuit by controlling the regulating circuit so as to decrease the rotating speed of the compressor.

14. A control device for an auger type ice making machine according

to claim 11, further comprising:

a bypass pipe that communicates an outlet side of a compressor of refrigeration circuit with an outlet side or an inlet side of an evaporation pipe; and

an electromagnetic valve attached to the bypass pipe,
the control circuit decreasing the refrigeration capacity of the refrigeration circuit by opening the electromagnetic valve to guide coolant to the bypass pipe.